

## ABSTRACT OF THE DISCLOSURE

Disclosed is a gate printed circuit board, a connector-free liquid crystal display (LCD) panel assembly, a driving-signal timing module included in the 5 liquid crystal display (LCD) panel assembly, and a method of driving the liquid crystal display (LCD) panel assembly. According to the present invention, since a separate connector and a gate printed circuit board of a conventional LCD panel is not required for applying a gate-driving signal generated from an external information processing device, a thickness and the number of parts of 10 the LCD device is reduced. Further, when the gate-driving signal is transmitted through the TFT substrate, the voltage  $V_{off}$  for maintaining a thin-film transistor (TFT) in a turned-off state is modified so that users may not recognize the imbalance in brightness.